# St. Louis Ozone/PM25 Control Strategies Meeting

**November 19, 2004** 

**East-West Gateway Office** 

- Air Quality
   Overview /Background
- Workgroup Responsibilities
- Steps for SIP Development
- Missouri Inventory
- Potential Control Strategies

## Air Quality Overview/Background

## Phase 1, 8-Hour Implementation Rule

- Rule Signed on April 15, 2004
- St. Louis Classified as "Moderate"

## **Current 8-hour Ozone Status for the St. Louis Area**

Limiting Monitor: Orchard Farm, MO

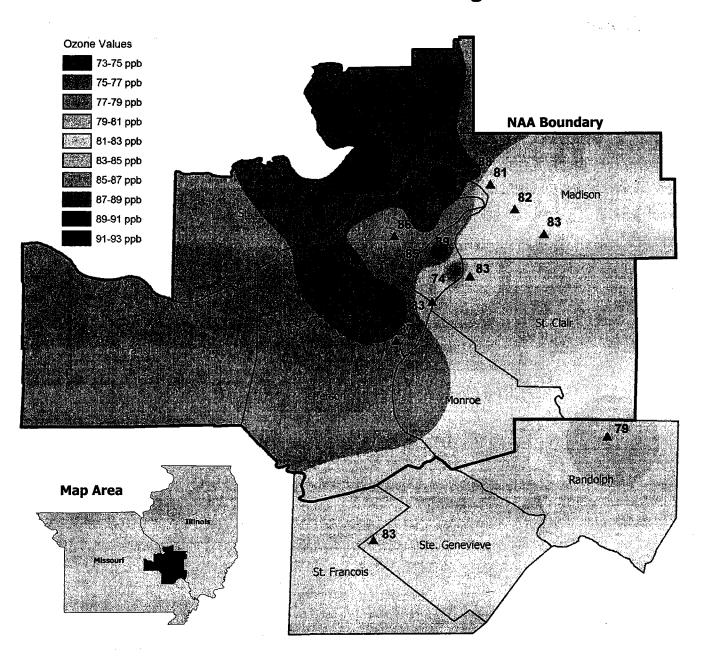
#### Top Four Values by Year

Rank	2001	2002	2003	2004*
1 <sup>st</sup> High	90 ppb	114 ppb	97 ppb	80 ppb
2 <sup>nd</sup> High	90 ppb	111 ppb	96 ppb	80 ppb
3 <sup>rd</sup> High	89 ppb	101 ppb	95 ppb	78 ppb
4 <sup>th</sup> High	88 ppb	98 ppb	90 ppb	<b>76 ppb</b>

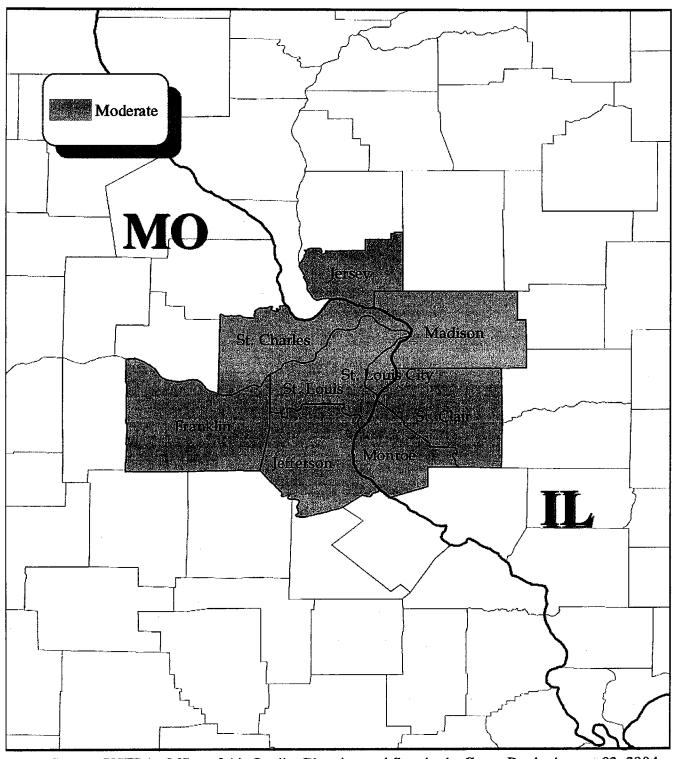
#### **Design Value**

2001-2003	2002-2004*
92 ppb	88 ppb

#### St. Louis Region 2001-2003 8-hour Ozone Design Values

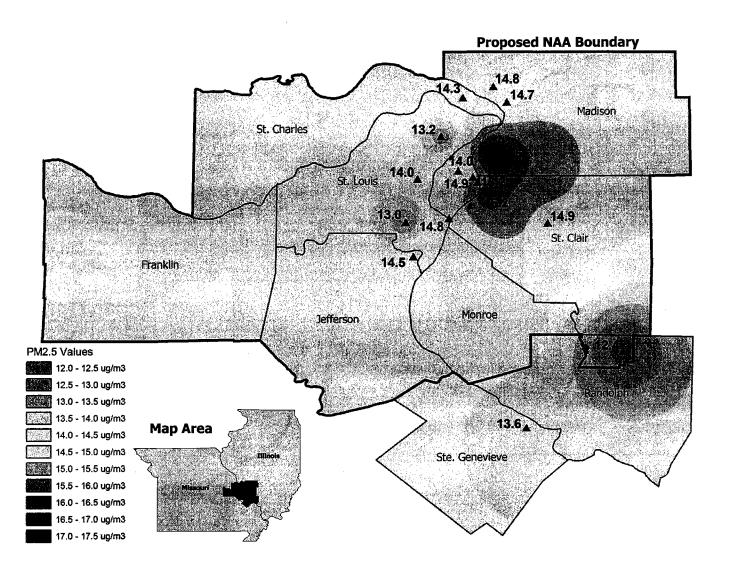


## 8-Hour Ozone Nonattainment Area St. Louis, MO-IL

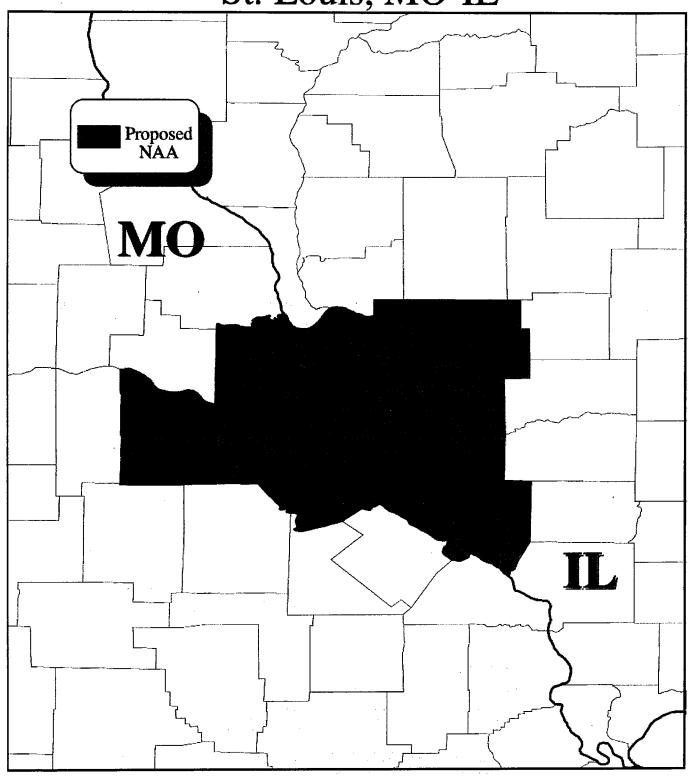


Source: USEPA, Office of Air Quality Planning and Standards, Green Book, August 03, 2004

### St. Louis Region 2001-2003 Annual PM2.5 Design Values



Proposed PM2.5 Nonattainment Area St. Louis, MO-IL

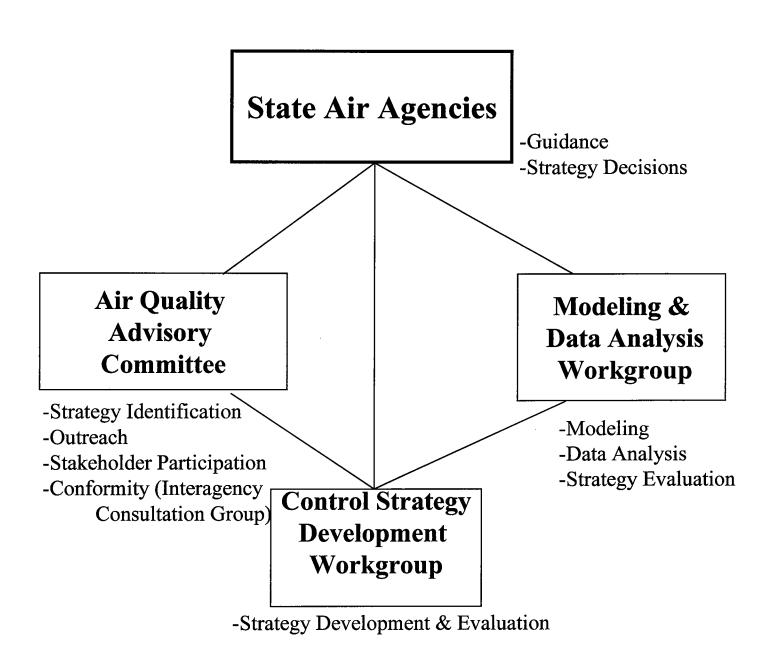


\* September 1, 2004, IEPA recommended only Baldwin Township in Randolph County as NAA Source: USEPA, Office of Air Quality Planning and Standards, July 8, 2004

### Discussion/Questions

## Workgroup Responsibilities

#### Organizational Chart



## Control Strategy Development Workgroup:

#### Responsible for...

- Identification and technical evaluation of control strategies needed to demonstrate attainment and meet other regulatory requirements
- Preparation of emissions inventories, tracking of control requirements required by the Clean Air Act, identification of other control measures, and evaluation of feasibility and costs
- Coordination and communication of strategies and technical information to AQAC, the Modeling and Data Analysis Workgroup, and the State Agency Air Directors

## **Air Quality Advisory Committee (AQAC)**

#### Responsible for ...

- Providing a forum for communication and outreach between local governmental agencies, stakeholders, the Modeling and Data Analysis Workgroup, Control Strategy Development Workgroup, and the State Agency Air Directors
- Identifying control strategy options for evaluation by the Control Strategy Development Workgroup
- Developing conformity budgets
- Preparing conformity demonstrations that are consistent with the 8-hour ozone and PM2.5 SIPs.

## Control Strategy Development Workgroup Participants

- Illinois EPA
- Missouri DNR
- U.S. EPA Region V
- U.S. EPA Region VII
- East-West Gateway

Local organizations, stakeholders, and academics that can contribute technical capabilities or resources are also invited to participate.

### Discussion/Questions

## Steps for SIP Development

. .....

#### **SIP Schedule**

#### Timeline...

- Final Area Designation: Ozone in 2004 and PM2.5 in 2005
- Control Strategy Evaluation: 2004-2005
- Technical Evaluation (Emission Inventory, Model Performance Evaluation, Control Strategy Modeling): Today - 2006
- SIP Submittals: 2007
- Attainment Dates: 2010

#### Components of the SIP

- Attainment Demonstration Modeling
- Reasonable Further Progress (RFP)
- Reasonable Available Control Technology (RACT)
- New Source Review (NSR)
- Conformity

#### SIP Development Approach

- Hold Stakeholder Meetings
- Perform Emission Inventory
- Define Potential List of Control Strategies for Both Ozone and PM<sub>2.5</sub>
- Evaluate Emission Reduction and Cost Effectiveness for selected control strategies

#### Cont.

- Provide Control Strategies to Modeling Workgroup for Evaluation.
- Coordinate and Communicate of Strategies and Technical Information to AQAC.
- Develop and Adopt SIPs,
   Including Emission Control
   Programs/Rules, Milestones and
   Deadlines.

### Discussion/Questions

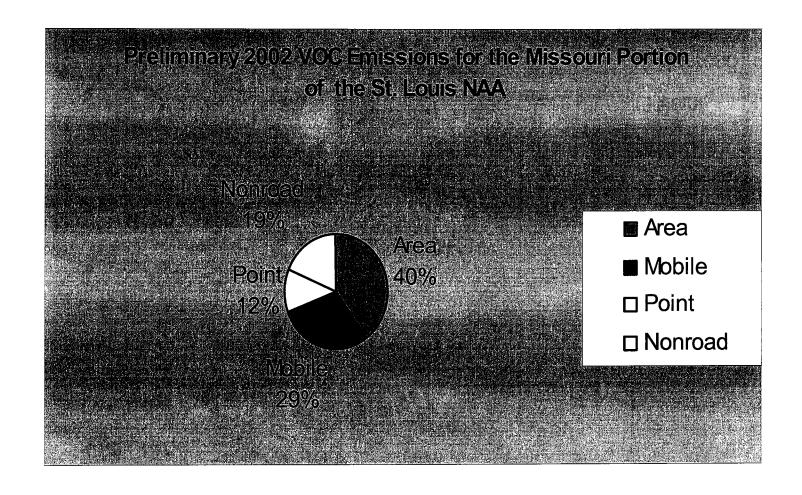
## Missouri Emission Inventory

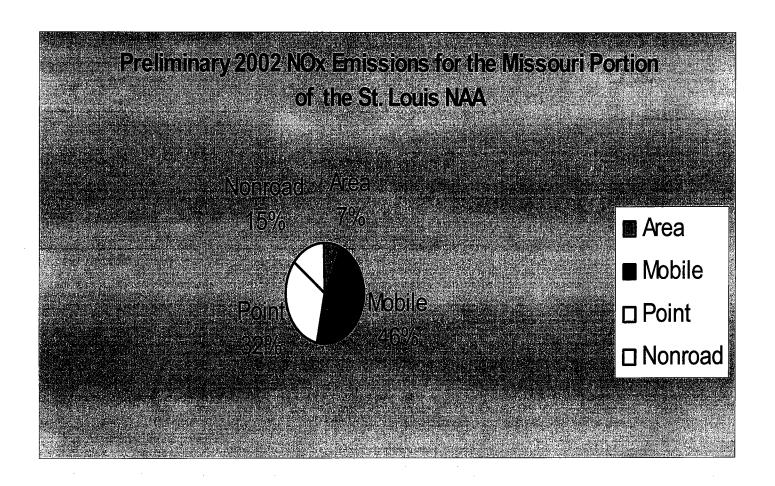
#### **Emission Inventory**

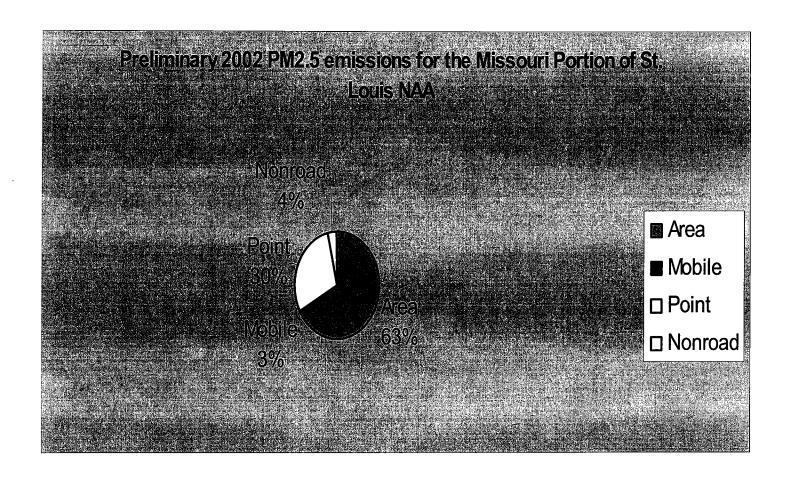
- Base year inventory: 2002
- Pollutants: VOC, NOx, PM2.5 precursors (SOx, NOx, Fine particulate, etc)
- Type of inventory- Point, area, Nonroad, mobile
- Tools: Transportation Data, Demographic data, Mobile 6, non-road models, etc.

## Preliminary 2002 Emissions for the Missouri Portion of the St. Louis Nonattainment Area (tons/year)

Category/Pollutant	VOC	NOx	PM2.5
Area	34987	10014	23624
Mobile	25273	62375	1085
Point	10829	43878	10988
Nonroad	16212	20021	1302
Total	87301	136288	36999







### Discussion/Questions

## Potential List of Control Strategies

## **Emission Reduction Strategies**

- Short List of Control Strategies
- Economically and Technologically Feasible
- Implement As Soon As Practical But not Later Than 2009
- Reduction Must be Quantifiable, Permanent, Enforceable.

	Source of	Reduction in	Emissions of Vol	atile Organic	Detail for Pre	-2010 Actions	PM2.5
·	additional	Compounds a	nd/or Nitrogen Oxi	ides that React	EMISSIONS	COST	emissions
COMBUSTION	information	in Sunlight	to form Ground L	evel Ozone	reductions in	estimated as	reduced
		ATTAINMENT	MAINTENANCE	LONG TERM	pounds per	dollars per ton	Please
Detail sheets are attached.		before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
STATE AND LOCAL ACTIONS	YARRADAM						
Permitting and control of	MDNR/KDHE		,				
major industrial sources	KCMO/KCK	already counted	SOCIAL CONTROL OF THE	A CONTRACTOR	group comment of the service of the	The state of the s	en er
Existing State RACT rules	MDNR/KDHE						
for specific industries		already counted					
Reporting of emissions from	MDNR/KDHE						
sources above 40 tons/year							
FEDERAL ACTIONS							
Interstate Air Quality Rule	EPA						
	MDNR/KDHE	CONTRACTOR OF THE PROPERTY OF		etak taabi da keta eta 1919 data 1918 data 1944 data 1940 (data) Arapinanan	(Vicinity) and the second of t		
MACT rules for hazardous	EPA						
air pollutants	MDNR/KDHE	already counted?	and the state of t	No. also a service de la control de la c	CHECK THE CHECK THE THE THE CHECK THE		
New Source Review off-sets	EPA	uncertain	not required for				
for non-attainment areas		impact	maintenance	Control of the Contro	CONTROL TO THE CONTROL OF THE CONTRO	engeneral (n. 1.5 i i i i i i i i i i i i i i i i i i i	
POTENTIAL NEW ACTIONS							
Regulate emergency generator	KCMO/KCK						
use for non-emergency power		yes	yes				
Restrict use of lighter fluids and	Jo Co	·					
switch to charcoal chimneys		yes	yes				
Prohibit residential open burnin	MDNR/KDHE	·					DIRECTORS AND ANY PROPERTY CONTROL OF CONTRO
and construction debris burns	MARC	yes	yes				
Lower RACT applicability	MDNR						gggaja najyoni my Jaka manayyoni ( jidhi ng Jibah Will ( 1000) k
limits	The second secon	yes	yes				
Establish RACT for new	KDHE	· · · · · · · · · · · · · · · · · · ·				·.	ngkamapangkamani/catarany filika asak kilika kilika kilika
source categories		yes	yes				
Contol major NOx sources	KDHE/MDNR						*Allamediamedificacemies as as as a consecutive (*A.A.)
in strategic locations		yes	yes	and the second s			

	Source of	Reduction i	n Emissions of Vola	atile Organic	Detail for Pre	-2010 Actions	PM2.5
SOLVENT USERS/	additional	Compounds a	nd/or Nitrogen Oxi	des that React	EMISSIONS	COST	emissions
VOC EMITTERS	information	in Sunligh	t to form Ground L	evel Ozone	reductions in	estimated as	reduced
		ATTAINMENT	MAINTENANCE	LONG TERM	pounds per	dollars per ton	Please
Detail sheets are attached.		before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
STATE AND LOOKEN COMONS	Medayiii						
Permitting and control of		edici ( April 1984 a C. Arrisoff in Production Conference	·				
major industrial sources							
Existing State RACT rules	distribution of the second section of the second second section of the second s	YES COMMISSION WORK STOLENS WITH WHICH WAS A	o elektropa para partico de la partico d	SOURCE (17% - "YO TH SEE, MICKLY THE SEMENTAL ELECTRIC ELECTRIC TRANSPORTED SOURCE ELECTRIC TRANSPORTED SOURCE	of the control of the		
for specific industries			·				
Household hazardous waste							
programs & education							
FEDERAL ACTIONS							
MACT rules for hazardous	and the special section of the special sectin			Barran Marka M		TO DECEMBER TO STORY OF THE STREET OF THE STREET	anggapan panggapan ena manananan kalamanan salam
air pollutants							
VOC standards for commercial		programativa sca (vosylet proposity cosyyyetsingi sar k vos sy	or oggatlymospouls with 1 the myskoff to 1 th 1 th 2 th 2 th 2 th 2 th 2 th 2 th	Denomina of the second of the	MATERIAL STATE OF THE STATE OF	M SHEMBA WAYANI AT AMERIKAN WAYANI AT AME	ideo printendentale de la companya
and consumer products							
ROJENTVIRVENYCHOVS*							
Partner with retailers to					- Waliotaka wa Tai Bir 1880, Nazio wa Kafuni Marindanini wa Waka Wani	r may yakala ata kaya (27- banjira saha ke derim ar SML 25-25-25-26-26-26-2	
sell low emission products							
Best Practices training tied	Tarakan kan harawan ka			高級 たがら けいせいいっぷがい マニ (こ (2) マッカン・・・			engengra y hakas askrala a 1 y kasa in 1964 kata ki ki ki
to business licensing							
Lower RACT applicability							Parking a supplementary before the parking of the supplementary
limits							
Early MACT/HAP	WORKERSON CONTROL OF THE STATE			kaga gluen sin vizzumanank som marminen hällin massera 4 om höldistikti.			engganganan kadar bereser da mahabangan
implementation							
Economic incentives for using	aller som en stern state state state of the			norf-sensolakkidannakkidaest Visidas Status, Nassansia Status soosa s			AND OWNER WHEN THE AND
low-VOC alternatives							
Control Emissions from				allengarin. I se secolar formula subspecialistic come consecutiva in consecutiva della consecutiva del			адары арадарда эксі на корманий инский эксп
solvent metal cleaning							

·	Source of	Reduction i	n Emissions of Vol	atile Organic	Detail for Pre	-2010 Actions	PM2.5
FUELS	additional	Compounds a	nd/or Nitrogen Ox	ides that React	EMISSIONS	COST	emissions
VEHICLE MAINTENANCE	information	in Sunligh	t to form Ground L	evel Ozone	reductions in	estimated as	reduced
AND TECHNOLOGY		ATTAINMENT	MAINTENANCE	LONG TERM	pounds per	dollars per ton	Please
Detail sheets are attached.	and the second s	before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
SAME AND LOOKERS TONE	Yabradayani.	LACE CONTRACTOR					
Stage I Vapor Recovery							
Lower RVP Gasoline							
see note about RFG							
Promotion of alternative fueled							
hybrid vehicles (Clean Cities)				Segunda any taona ny mandritry ny taona ao amin'ny taona amin'ny taona amin'ny taona amin'ny taona amin'ny taona	,	,	A CONTRACTOR OF THE PROPERTY O
Missouri safety inspections	an mengalak di adalah di sama an mengalak di adalah di sahari dan sebagai da sahari da sahari da sahari da sah	internation of the second	Selection where the contraction are accomplished from the contraction of the contraction		nazanazioneniakien kieniaki orrokse eskale conference ai ekst kii sesek kii	eserini rimenor am orinca ir vinos-camanas calaboretis evaks vinasanessas	and the approximation and analysis commen
FEDERAL ACTIONS							
FEDERAL ACTIONS	5 1 .						
Tax credits for electric and	······						<del></del>
hybrid electric vehicles							
On-Board Stage II Vapor				l Aprille (and a grant de la	rinde (State Land and American State State And Associated Anni Andrea Andrea Anni Anni Anni Anni Anni Anni Anni	والمراجعة المستعددة والمدارعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة والمراجعة	regionalismostati apartici per
Recovery for newer cars							
Tier 2, gasoline and diesel fuel standards							ON THE COMMENSAGE OF THE STATE OF THE COMMENSAGE
Tier 2, light & medium duty		·					
vehicle emissions standards	ana namidikin muma a maka na sokumba nimeta ni nyimbolo.	en e		a Normal Carly (n. 1764 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 140 - 1	and and a the second		
Tier 2, heavy duty vehicle		<del></del>					
emissions standards	de de Militaria como de recipio de recipio de la compansión de la compansión de la compansión de la compansión	- And Special Period and the state of the State of State			and the state of t	O BANDARO (MACALAMAN SIARA NO SIMBANDARO ARRESTA PARA	
ROTENTAL NEW ACTIONS A							
Full emissions testing prog							
(I/M 240)	<u> </u>						AMERICAN ASSOCIATION AND MERCAL PARTICULAR P
Stage II Vapor Recovery					<u> </u>		
at the gas pump	PERSONAL VALUE OF STREET VALUE OF STREET OF STREET VALUE OF STREET VALUE OF STREET VALUE OF STREET VALUE OF ST		Дарын анууу тарын төлөөттүү арын танысын асын асын асыны	America was fin market from the market and the construction of the			anniconare recomment of Science (1995), in the
Stage II Vapor Recovery					·		
or w/time-of-day pricing	TOTAL TO THE PROPERTY OF THE P		gertridenske den fatte er verske tresse i varrette skart ditte freske tridenska fatt det dek av	ether Bathata tabella, her "Yan Yanga tabella, yan tabella ka tabella tabella ya Lan.			a Audio 2 methos monthly Different materials are "Through Arbert or the city of through
Reformulated gasoline (RFG)							
would replace lower RVP							
More aggressive promotion of							
alt fuel vehicles (incl hy-elec.)	egolometens, major en skullejer mej megolomi skullejer 420 f	•		enders and difference on the residence are all insure solid and insures and the Au-			CONTRACTOR OF THE CONTRACT OF STAMPS, SHE YAN'T C
Former gas cap replacement	·····					_	
could be implemented again	nder tide elektropskatischtigs för volkstade den telet			мененда асстанову делега комитурня спертимання повертная повертная повертная повертная повертная повертная пове			discrimentali mir samusus seie mersenti n. «Gren rö
Require emissions testing							
for vehicle title transfer							**************************************
Vehicle repair/replacement for							
low income owners in conj. W/				ngaly yari. Danis muzilinga sacialisis that tik nga mingduga dang alam di malikalan nga mjari yari.			
The model of the original							

	Source of	Reduction i	n Emissions of Vol	atile Organic	Detail for Pre	-2010 Actions	PM2.5
ON-ROAD VEHICLE	additional	Compounds a	nd/or Nitrogen Ox	ides that React	EMISSIONS	COST	emissions
OPERATIONS AND	information	in Sunligh	t to form Ground L	evel Ozone	reductions in	estimated as	reduced
MILES TRAVELED		ATTAINMENT	NAINTENANCE	LONG TERM	pounds per	dollars per ton	Please
Detail sheets are attached.	ere Period (CA) (CA) (CA) (CA) (CA) (CA) (CA) (CA)	before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
STATE AND LOGAL ACTIONS A	ERZOMNEY	Œ					
Reduced fare transit on							
Ozone Alert Days	egan de Peter y des exament de late de la late de la recherche de la recherche de la recherche de la recherche	advokulari de (delem gr. v. volu yan opuluri kapinuran di yeliku tefiki tekena	n med Arthur Bir Meine Arthur Annach (christife Annach (christian) med Color (christian) and Arthur (christian) an	ed Samman der Kommunischer ist der der Andrea Stadt der Zeiter werde erwick der Andrea	-Budy (ED) TELLY COMMUNICATION SUPER VITE INTERCEPTION TO HANGING THE METERS OF THE SECOND STREET, AND SECON	the first section of the second control of the second control of the section of t	hande er fin de stiffen het er fan de skieder de de skieder stiffen fan de skieder stiffen fan de skieder stiffe
Operation Green Light,							
Phase I		тург (-7- <b>дан</b> ) (-7- <b>да</b> н) (-7-дан) (-7-дan) (-	Can kepa ara ngahama ta kapana (	The state of the s	TO CHAIL AND	and to the second secon	
Regional Rideshare carpool							
matching program	gan chinedellitta gill (istolikkover visco) (a moliki isto-musisa aasalaa 123	angagi serupuh dibang dikecapang pengangan pengangan dibang dibang dibang pengangan pengangan pengangan pengan	and a property of the second o	AND COMPANY DESIGNATION OF THE OPEN DESIGNATION OF THE OPEN DESIGNATION OF THE OPEN DESIGNATION OF THE OPEN DE	COMMISSIONE THEORY COMMISSION OF THE COMMISSION CHARGE AND COMMISSION OF		eutopieta servero, como paramero por la circum. El militar del sectione
FEDERAL ACTIONS					a Nasan Ing Kabupatèn Barangan		
EPA Smart Growth Network			·				
Any DOT initiatives?	graphy accessing a manage debetages and community to the first of the product of the	(CHELLINE) 1987 (CHELINE) 1988 (CHELINE) 1988 (CHELINE) 1988 (CHELINE) 1988 (CHELINE) 1988 (CHELINE) 1988 (CHELINE)	COMMITTED AND THE REPORT OF THE PROPERTY OF TH		eder hann er er er an dan die er	A COLOMBO TO MANAGEMENT AND THE STATE OF THE	ANY AND ANY AND ANY AND ANY AND ANY
POTENTIALENEWACTIONS	100					or The same of	
Double speeding fines	C. C	Sept. Carlotte Carlot	And the state of t	The second secon			
on ozone alert days	CONTRACTOR OF THE PROPERTY OF	CONTENT STORAGE CONTENT AND A STORAGE	STATE OF THE PROPERTY OF THE P	A TELEPHOLOGORY COLLEGE OF THE GREAT COLLEGE OF THE		CHICATE TO COME TO CONTROL OF A	CONTROL TO CONTROL A TODAY OF THE STATE OF T
Enhanced enforcement of							
speed limits	The second second control of the second control of the second second second second second second second second	STEP COME STATE ST		and the second s			
Reduce regional highway							
speeds to 55 mph	33 ) 10 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			COMMENT TO THE PROPERTY OF THE		· · · · · · · · · · · · · · · · · · ·	
Reduce regional highway							
speeds by 5 mph	Character of Carte Steel Conference and a Conference of Carte Conf			and the first transfer of the state of the s			
Institute surcharges on parking				- '			
to encourage transit/carpooling	CONTRACTOR OF THE PROPERTY OF						
Promulgate and enforce							
anti-idling rules	ecumenta different, su det des que est, acidade de catalo enflacion de-			on control (ETE). ALLE CHE, ETE PPO (ETE) AND ETE SET SET SET SET SET SET SET SET SET			
Install IdleAir Systems for diesel					_		ggargaran o wayyo o zoni zani kununu. Penn
trucks at rest/truck stops	and a supply for consistency to the end deposits, energy	- ·					

FLEET OPERATIONS	Source of	Reduction in	n Emissions of Vola	tile Organic	Detail for Pre	-2010 Actions	PM2.5
Public safety, hauling,	additional	Compounds a	nd/or Nitrogen Oxi	des that React	EMISSIONS	COST	emissions
shipment and delivery,	information	in Sunlight	to form Ground L	evel Ozone	reductions in	estimated as	reduced
transit and school buses.		ATTAINMENT	MAINTENANCE	LONG TERM	pounds per	dollars per ton	Please
Detail sheets are attached.		before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
State And Local Actions		MCE SEE:					
State alternative fuel vehicle							
fleet requirements				enter de l'action de l'est de l'action			
Grant funding for alternative or							
hybrid vehicles (Clean Cities)	an in a season and the first the comment of the first the control of the comment of the comment of the comment			general entered speed region to the state of the state of the state of the control and the state of	erand abbiling all abbilings on LCC 124, by Cervella 5 of MET 1 of all affects from 1 miles	activity and an activity and activity on the second and activity of the second activity of the second activity	
FEDERAL ACTIONS					•		,
Tier 2, light & medium duty							
vehicle emissions standards	it ya akiliku di kunda afiyan isu	order blevofft. Till, Afternam Stefen freuen til ste at Effekt film film stefen skille skille skille skille sk		aan ka	Alter and a security as convertible of Managarian to the Control of the Control o	- This is the second of the se	
Tier 2, gasoline and diesel					*		,
fuel standards	and the second	CATALON TO THE PART AND PROPOSED WAS AND STATE OF THE STA				Control of the Contro	NOT AND THE VALUE OF THE PARTY
Tier 2, heavy duty vehicle							
emissions standards					The second secon	The property of the state of th	Charles and American Charles and the Common areas
Urban Bus Program and the							
Clean School Bus Program							
Federal alternative fuel vehicle							
fleet requirements					- Older Electrophysiological Communication (1972) and a set of the confidence of the		
gonannanalalakatorsa						are I make Maria	
Benchmarks for emissions redu	ctions						
Convert light duty fleets to					·		
alternative fuels/hybrid tech.	mano-line kan manya manaya ka ya (1) Ayi kin ta ka				·	· 	
Heavy duty engine retrofit							construction and analysis of the construction and
incentive program				AND THE PROPERTY OF THE PROPER			20001. 1011 101 101
Use of auxiliary controls to lower					··		
idling emissions from trains	unction traces was even edited the sufficient and the sufficiency of the sufficient and t			omencemble mars integrated history in integrate and account of the control with the control			And a second sec

	Source of	Reduction i	n Emissions of Vol	atile Organic	Detail for Pre	-2010 Actions	PM2.5
SEASONAL HEAVY	additional	Compounds a	nd/or Nitrogen Oxi	des that React	EMISSIONS	COST	emissions
CONSTRUCTION	information	in Sunligh	t to form Ground L	evel Ozone	reductions in	estimated as	reduced
		ATTAINMENT	MAINTENANCE	LONGTERM	pounds per	dollars per ton	Please
Detail sheets are attached.		before 2010	2010-2020	after 2020	summer day	of reduction	see footnote*
STATE AND LOCAL ACTIONS		LACE					
Contractual requirements for							
off peak and night work	weep and the time of time of the time of time of the time of t	and the second s	and the control of th		e de la comita de la companya de la comita de	age responses for a survey pour Page 1992 and Page 199	оритали. Состоя приводательной в востоя на село в востоя на село в востоя на село в востоя на село в востоя на
Restrictions on open							
burning of debris		ikka kan rikannikannikannikan (bir tina nedikin List kangani kita	A STATE OF THE STA			here and as a simple ground of the research of the simple ground of the	3000 000 000 000 000 000 000 000 000 00
FEDERAL ACTIONS						·	
Low sulfur diesel phasing in							
btwn 2007 and 2010		and a great to have to the control of the control o			and the state of t	graphy man sing a suit out out in season and sing a second draw-	general en skilde betrevende fan de ferfelde f
Rules for cleaner off-road							
diesel engines 2008 to 2014					The second secon	enticus attendenten film februaria dala Laboritationi (in constitution)	
POTENTAL NEW ACTIONS							
Contract incentives for early						- Christian Marie Carlot (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964) (1964)	
engine retrofits							
Require coordination btwn		,				7.7 W	
road work and utility work							
Geographic coordination of							
construction in the region	anticorium anticolor de production de production de production de production de production de production de pr			The second secon			
Require low VOC paving							\$24,11835 FEE 1305 \$4.2500 Spt. 12328 John
and striping materials		· · ·					

in Sunlight to form Ground Level Ozone reductions in estimated as reduced ATTAINMENT MAINTENANCE LONG TERM pounds per dollars per ton Please before 2010 2010-2020 after 2020 summer day of reduction see footrole	derivation of the state of the	Source of	Reduction in	Reduction in Emissions of Volatile Organic	itile Organic	Detail for Pre-2010 Ac	2010 Actions	PM2.5
N information in Sunlight to form Ground Level Ozone reductions in estimated as leduced and before 2010 2019-2020 ariser 2020 summer day of reduction see founds see founds are reduction see founds or reduction see founds ariser 2020 summer day of reduction see founds are reduction see founds ariser 2020 summer day of reduction see founds are reductions.	A A A CHANGAIN AND AND AND AND AND AND AND AND AND AN	additional	Compounds a	nd/or Nitrogen Oxi	des that React	EMISSIONS	COST	emissions
ATTANMENT MAINTENANCE LONG TERM pounds per ton before 2010 2014-2222 arter 2020 summer day of reduction see frointel see f	LAWN AND GARDEN	information	in Sunlight	to form Ground L	evel Ozone	reductions in	estimated as	reduced
before 2010 2019-2020 after 2020 summer day of reduction see Excitotate tots tots tots tots tots tots tots to			ATTAINMENT	MAINTENANCE			dollars per ton	1
	Detail sheets are attached.		before 2010	2010-2020	<b>after 2020</b>			see footnote
	Metro Green Plan for							200000H
	regional green space	тёл;; яббатИвт учучановае; ч к÷э <b>сса::8</b>		the case of the ca				Common or Constitution of the Total of the Open of the Constitution of the Constitutio
	Restrictions on open							
	burning of yard waste		DAN PYTERY THE TRANSPORTATION OF THE PERSON	en plante en		Endere de la companya	Stendards Parket Parket verticals	Protection of the state of the
	State right-of-way natural							
	landscaping, less mowing							
	FEDERAL ACTIONS							
	Phase II emission standards							
	for handheld engines	TO COMPANIES ON A STATE PROPERTY AND LINEAR PROPERTY AND A STATE OF A STATE O			NESSER A MEN VERSIONES DE PRESENTANTES DE PRESENTANTES EN LA CORRESPONDE DE L'ACTUAL DE L'	SOCIAL PROGRAMMENT AND	AND THE PROPERTY AND PROCESSED STORY OF AN ANAMERICA, AT TO SHAPE	ere authograph action colors and
	Phase II emission standards							
	for small engines	ORD DOWN THE COMMENT OF THE POPULATION OF	1		And deployment was a second of the second of	COURT TO PREPARE THE PROPERTY OF THE PROPERTY	т түз айыстай танай танай тана тана танаты	POP CHARACTER AND PRINTED TO THE PERSONS AND PRINTED TO THE PERSONS AND PERSON
	Marketable emissions for							
	early/late compliance			And the second property and the second of a second of the				
	SVOLLOYMENTALIVELLO							aligna di S
equipment on alert days  Laid back lawn care - less  water, chemicals, mowing  Small engine buyback incertive program  Distribute or subsidize low emission gas cans Green purchasing co-op for commercial lawn services  Time-of-day ban on use of gasoline equipment tied to accelerated replacement	Ban use of gas-powered							
Laid back lawn care - less  water, chemicals, mowing  Small engine buyback incertive program  Distribute or subsidize low emission gas cans Green purchasing co-op for commercial lawn services Time-of-day ban on use of gasoline equipment lied to accelerated replacement	equipment on alert days							
water, chemicals, mowing  Small engine buyback incertive program  Distribute or subsidize low emission gas cans Green purchasing co-op for commercial lawn services  Time-of-day ban on use of gasoline equipment fied to accelerated replacement	Laid back lawn care - less							:
Small engine buyback incertive program  Distribute or subsidize low emission gas cans Green purchasing co-op for commercial lawn services  Time-of-day ban on use of gasoline equipment tied to accelerated replacement	water, chemicals, mowing							3
incertive program  Distribute or subsidize  Iow emission gas cans Green purchasing co-op for commercial lawn services  Time-of-day ban on use of gasoline equipment tied to accelerated replacement	Small engine buyback							enterth addition on the found and dead selecting one.
Distribute or subsidize  low emission gas cans Green purchasing co-op for commercial lawn services Ilme-of-day ban on use of gasoline equipment tied to accelerated replacement	incentive program							
Iow emission gas cans Green purchasing co-op for commercial lawn services Time-of-day ban on use of gasoline equipment tied to accelerated replacement	Distribute or subsidize							TAL' PERÈ L'ORI, ENY "ARRON PRODUIN" I L'ARGONNES N'A L'ARGONNES N
Green purchasing co-op for commercial lawn services  Time-of-day ban on use of gasoline equipment tied to accelerated replacement	low emission gas cans	-,.						
Time-of-day ban on use of gasoline equipment tied to accelerated replacement	Green purchasing co-op for							arrainmapped do Application or the same complete for the latest
Time-of-day ban on use of gasoline equipment tied to accelerated replacement	commercial lawn services							
of gasoline equipment tied to accelerated replacement	Time-of-day ban on use							SENCENCE OF THE SENCENCE OF THE CONTRIBUTION O
to accelerated replacement	of gasoline equipment tied			A COMMENT OF THE PROPERTY OF T	AND AND THE SECOND STREET, AND THE SECOND STR			ACTIVITY OF A STATE OF A STATE OF THE ACTIVITY
	to accelerated replacement							

#### Rules in Place

- Open Burning Restrictions
- Control of Emission of Nitrogen Oxides.
- Control of Petroleum Liquid Storage, Loading and Transfer
- Control of Emissions From Aerospace Manufacturing and Rework Facilities (5/18/2000)
- Control of Emissions from Solvent Metal Cleaning (7/11/80)
- Liquefied Cutback Asphalt Paving Restricted (7/11/80))
- Control of Emissions from Perchloroethylene Dry Cleaning Installations (4/3/81)
- Control of Emissions from Industrial Surface Coating Operations (7/11/80)
- Control of Emissions from Rotogravure and Flexographic Printing Facilities (4/3/81)
- Control of Emissions from Manufacture of Synthesized Pharmaceutical Products (4/3/81)
- Control of Emissions from Polyethylene Bag Sealing Operations (10/15/84)

#### Cont.

- Control of Emissions from the Application of Deadeners and Adhesives (3/5/90)
- Control of Emissions from Manufacture of Paints,
   Varnishes, Lacquers, Enamels and Other Allied Surface Coating Products (4/16/85)
- Control of Emissions from the Manufacture of Polystyrene Resin (3/5/90)
- Control of Equipment Leaks from Synthetic OrganicChemical and Polymer Manufacturing Plants (4/14/88)
- Control of Emissions from Bakery Ovens (2/17/00)
- Control of Emissions From Offset Lithographic Printing Operations (2/17/00)
- Control of VOC Emissions from Traffic Coatings (2/17/00)
- Control of Emissions from Aluminum Foil Rolling (2/17/00)
- Control of Emissions from Solvent Cleanup Operations (2/17/00)

#### Cont.

- Municipal Solid Waste Landfills (4/24/98)
- Control of Emissions From Volatile Organic Liquid Storage (5/18/2000)
- Control of Volatile Organic Compound Emissions From Existing Major Sources (5/18/2000)
- Control of Volatile Organic Compound Emissions From Wood Furniture Manufacturing Operations (5/18/00)
- Control of Emissions From Batch Process Operations (5/18/00)
- Control of Volatile Organic Compound Emissions From Reactor Processes and Distillations Operations Processes in the Synthetic Organic Chemical Manufacturing Industry (5/18/00)

### Implementation Issues

- Rule signed on April 15, 2004
- St. Louis classified as "Moderate"
- RFG & I/M requirements same as 1-hour (Phase 2)
- RFP 3% per year (Phase 2) VOC or NOx?
- RACT
- Full Blown attainment demonstration
- Attainment date for moderate areas 6 years (April 15, 2010)
- 1-hour standard revoked on April 15, 2005.
- NSR transition
- Transportation Conformity transition.
- CAIR
- NOx SIP Call

### Discussion/Questions

## Assignments

	·	•		